

ABSTRACT OF THE DISCLOSURE

Provided is a semiconductor device having a source region formed of a semiconductor, a drain region formed of a semiconductor of the same conductive type as that of the source region, a channel region formed of a semiconductor between the source region and the drain region, a gate insulating film provided on the channel region, and a gate electrode provided on the gate insulating film and formed with a P-N junction including a P-type semiconductor region and an N-type semiconductor region. At this time, the P-type semiconductor region and the N-type semiconductor region of the P-N junction of the gate electrode are electrically insulated.